



US EPA RECORDS CENTER REGION 5



513890

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 24, 1994

Regional Administrator
United States Environmental
Protection Agency, Region 5
ATTN: Darryl Owens
Mail Code 5HS-11
230 South Dearborn Street
Chicago, Illinois 60604

President
Reilly Industries, Inc.
1510 Market Square Center
151 North Delaware
Indianapolis, Indiana 46204

Director, Solid and Hazardous
Waste Division
Minnesota Pollution Control Agency
ATTN: Site Response Section
520 Lafayette Road North
St. Paul, Minnesota 55155

Commissioner
Minnesota Department of Health
717 Delaware Street S.E.
P.O. Box 9441
Minneapolis, MN 55440

RE: United States of America, et al. vs. Reilly Tar &
Chemical Corporation, et al.
File No. Civ. 4-80-469

Gentlemen and Commissioner O'Brien:

In a letter dated January 25, 1994, the City advised the Parties that it had commenced the monitoring of Prairie du Chien-Jordan Aquifer well SLP6 pursuant to the provisions of Section 12.1 of the Remedial Action Plan (RAP) in the referenced case. The first round of monitoring conducted on January 20 pursuant to Section 12.1 of the RAP, yielded results of 148 and 160 parts per trillion (ppt), below the established Advisory Level of 175 ppt. The second round of monitoring, conducted on February 8, yielded results of 74 ppt and 97 ppt (see enclosed).

Pursuant to the provisions of Section 12.1 of the RAP, the monitoring of SLP6 has been discontinued.

Sincerely,

A handwritten signature in blue ink that reads "James N. Grube".

James N. Grube
Director of Public Works

JNG/cmr
enclosure

cc: Elizabeth Thompson (w/o enclosure)
Reilly File (w/enclosure)



CASE NARRATIVE

FOR

City of St. Louis Park

February 21, 1994

Enseco - RMAL Project Number 033713

Introduction

Six aqueous samples (includes QC) were received at Enseco Rocky Mountain Analytical Laboratory on February 09, 1994. The samples were logged in under RMAL project number 033713 Sample PCJ-SLP6FBD-020894 was extracted and held per the April 1990 QAPP. A cross reference associating the RMAL sample numbers to the actual field sample numbers is included. The samples were analyzed for low level part-per-trillion (ppt) polynuclear aromatic hydrocarbons (PAH).

Data Quality Assessment

The results contained in this report were reviewed relative to data acceptance criteria as specified in the April, 1990 QAPP for completeness, precision, accuracy, representativeness and defensibility of the data. Unless otherwise stated below, no quality control problems or technical difficulties were encountered which would impact the interpretation or use of data in this report.

PPT PAH

The percent recovery for Benzo(E)Pyrene was below QC limits in samples 033713-0001MS/SD. The RPD for Fluorene was outside QC limits for sample 033713-0001MS/SD. Since acceptable recovery was achieved for all other spike components, quantitation was checked and no further action was taken.

Case Narrative - RMAL #033713
February 21, 1994
Page Two

The 4800 ng/ml and the 2400 ng/ml standards had excessive saturation, therefore they were not used as the upper range for the 5-point calibration curve. Instead, the calibration curve used was, 20 ng/ml, 40 ng/ml, 240 ng/ml, 600 ng/ml, and 1200 ng/ml.

All samples associated with project 033713 show target compounds that do not meet secondary ion confirmation. In some instances a compound that does not meet secondary ion confirmation criteria may still be determined to be present in the sample after close inspection of the data by the analyst. Supportive data includes mass chromatograms maxima at the same scan for primary and secondary ions, as well as discernible quantitation interference with the secondary ion. These compounds are flagged with the letter (R) on the data sheets (Form I) as per the 1990 QAPP.

This data package is in compliance with the terms and conditions of the 1990 QAPP, both technically and for completeness, for other than the conditions detailed above.

Reported by: Karen F. Germann
Karen F. Germann
Program Administrator

Date: February 21, 1994

Approved by: Julieann L. Kramer
Julieann L. Kramer
Program Manager

Date: February 21, 1994

SAMPLE DESCRIPTION INFORMATION
for
City of St. Louis Park

Lab ID	Client ID	Matrix	Sampled		Received Date
			Date	Time	
033713-0001-SA	PCJ-SLP6-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-DU	PCJ-SLP6D-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-MS	PCJ-SLP6MS-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-SD	PCJ-SLP6MSD-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-FB	PCJ-SLP6FB-020894	AQUEOUS	08 FEB 94		09 FEB 94
033713-0001-FD	PCJ-SLP6FBD-020894	AQUEOUS	08 FEB 94		09 FEB 94

ANALYTICAL TEST REQUESTS
for
City of St. Louis Park

Lab ID: 033713	Group Code	Analysis Description	Custom Test?
0001 , 0001	A	Polynuclear Aromatic Hydrocarbons, SIM Low Level	N
		Prep - PAH/SIM by GC/MS Low Level	N
0001	B	Prep - PAH/SIM by GC/MS Low Level	N



Qualifier Codes and Their Usage

- U** = Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture.

- J** = Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for dilution as discussed for the U flag.

- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results.

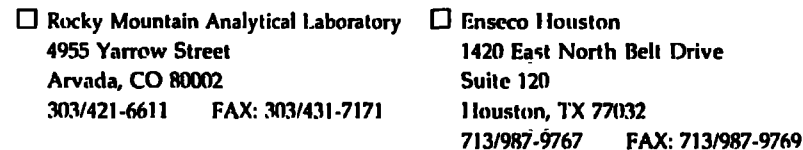
- P** = This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

- C** = This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag, instead use a laboratory-defined flag, discussed below.

- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

Qualifier Codes and Their Usage
Page Two

- E** = This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed accordingly to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate copies of Form I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.
- D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag. This flag alerts data users that any discrepancies between the concentrations reported may be due to dilution of the sample or extract.
- A** = This flag indicates that a TIC is a suspected aldol-condensation product.
- X** = Other specific flags may be required to properly define the results. If used, they must be fully described, and such description attached to the Sample Data Summary Package and the SDG Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z" as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample. The laboratory-defined flags are limited to the letters "X", "Y", and "Z".
- R** = This flag is used for polyaromatic hydrocarbons which show target compounds that do not meet secondary ion confirmation. In some instances a compound that does not meet secondary ion confirmation criteria may still be determined to be present in the sample after close inspection of the data by the analyst. Supportive data includes mass chromatograms maxima at the same scan for primary and secondary ions, as well as discernible quantitation interference with the secondary ion.

[illegible]



☐ Rocky Mountain Analytical Laboratory
4955 Yarrow Street
Arvada, CO 80002
303/421-6611 FAX: 303/431-7171

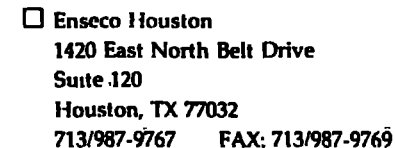
☐ Enseco Houston
1420 East North Belt Drive
Suite 120
Houston, TX 77032
713/987-9767 FAX: 713/987-9769

CHAIN OF CUSTODY

ENSECO CLIENT <i>City of St Louis Park Water Dept</i>		SAMPLE SAFE™ CONDITIONS	
PROJECT		PACKED BY <i>MZA</i>	SEAL NUMBER
SAMPLING COMPANY <i>SAIWA</i>		SEAL INTACT UPON RECEIPT BY SAMPLING COMPANY	CONDITION OF CONTENTS
SAMPLING SITE <i>SAIWA</i>		SEALED FOR SHIPPING BY <i>MZA</i>	INITIAL CONTENTS TEMP °C
TEAM LEADER <i>MZA</i>		SEAL NUMBER	SAMPLING STATUS <input type="checkbox"/> Done <input type="checkbox"/> Continuing Until
		SEAL INTACT UPON RECEIPT BY LAB <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CONTENTS TEMPERATURE UPON RECEIPT BY LAB 0.1 °C

DATE	TIME	SAMPLE ID/DESCRIPTION	SAMPLE TYPE	# CONTAINERS	ANALYSIS PARAMETERS	REMARKS
2-8-94		PET-SLP GFB-020894	1X LAMBER	6	PPG PAH	100 5 -01F0
2-8-94		PET-SLP GFB-020894	1X LAMBER	6	PPG PAH	PPG 5 -01F0

CUSTODY TRANSFERS PRIOR TO SHIPPING				SHIPPING DETAILS	
RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME	DELIVERED TO SHIPPER BY <i>MZA</i>	
				METHOD OF SHIPMENT <i>FED EX</i>	AIRBILL NUMBER <i>21030 3020</i>
				RECEIVED FOR LAB <i>Emar</i>	SIGNED <i>Mcaw</i>
				ENSECO PROJECT NUMBER <i>33713</i>	DATE/TIME <i>2/9/94 820</i>



SUMMARY

DATA

PACKAGE

FOR

CITY OF SAINT LOUIS PARK
RMAL No: 33713

1X
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

33713-01

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

PCJ-SLP6-020894

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01

Sample wt/vol: 4200 (g/mL) ML

Lab File ID: C8689

Level: (low/med) LOW

Date Received: 02/09/94

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ng/L or ug/Kg) ng/L

CAS NO.

COMPOUND

Q

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	31	
95-13-6-----	1H-Indene	1	
91-20-3-----	Naphthalene	3	BJR
4565-32-6-----	Benzo(B)Thiophene	2	R
91-22-5-----	Quinoline	1	BJR
120-72-9-----	1H-Indole	1	J
91-57-6-----	2-Methylnaphthalene	2	B
90-12-0-----	1-Methylnaphthalene	2	U
92-52-4-----	Biphenyl	4	U
208-96-8-----	Acenaphthylene	7	
83-32-9-----	Acenaphthene	16	
132-64-9-----	Dibenzofuran	1	U
86-73-7-----	Fluorene	6	B
132-65-0-----	Dibenzothiophene	1	U
85-01-8-----	Phenanthrene	3	B
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	1	BJ
129-00-0-----	Pyrene	1	BJ
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	U
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

IX
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

33713-01DU

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

PCJ-SLP6D-020894

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01DU

Sample wt/vol: 4200 (g/mL) ML

Lab File ID: C8690

Level: (low/med) LOW

Date Received: 02/09/94

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ng/L or ug/Kg) ng/L

CAS NO.

COMPOUND

Q

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	34	
95-13-6-----	1H-Indene	2	
91-20-3-----	Naphthalene	5	BJR
4565-32-6-----	Benzo(B)Thiophene	3	
91-22-5-----	Quinoline	1	BJR
120-72-9-----	1H-Indole	2	J
91-57-6-----	2-Methylnaphthalene	4	B
90-12-0-----	1-Methylnaphthalene	2	BR
92-52-4-----	Biphenyl	1	J
208-96-8-----	Acenaphthylene	8	
83-32-9-----	Acenaphthene	18	
132-64-9-----	Dibenzofuran	2	
86-73-7-----	Fluorene	8	B
132-65-0-----	Dibenzothiophene	1	U
85-01-8-----	Phenanthrene	5	B
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	2	B
129-00-0-----	Pyrene	1	BJ
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	U
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

IX
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

33713-01FB

Lab Name: ENSECO

Contract:

PCJ-SLP6FB-020894

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01FB

Sample wt/vol: 4200 (g/mL) ML

Lab File ID: C8687

Level: (low/med) LOW

Date Received: 02/09/94

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ng/L or ug/Kg) ng/L

CAS NO.

COMPOUND

Q

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	1	JR
95-13-6-----	1H-Indene	0.9	U
91-20-3-----	Naphthalene	5	BJ
4565-32-6-----	Benzo(B)Thiophene	0.9	U
91-22-5-----	Quinoline	1	BJ
120-72-9-----	1H-Indole	2	U
91-57-6-----	2-Methylnaphthalene	4	B
90-12-0-----	1-Methylnaphthalene	2	BR
92-52-4-----	Biphenyl	4	U
208-96-8-----	Acenaphthylene	1	U
83-32-9-----	Acenaphthene	1	U
132-64-9-----	Dibenzofuran	1	U
86-73-7-----	Fluorene	1	B
132-65-0-----	Dibenzothiophene	1	U
85-01-8-----	Phenanthrene	5	B
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	2	B
129-00-0-----	Pyrene	2	B
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	U
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

1X
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

Lab Name: ENSECO

Contract:

33713-01FBD

Lab Code: ENSECO

Case No.: 33713

SAS No.:

PCJ-SEP6FBD-020894

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01FBD

Sample wt/vol: 4200 (g/mL) ML

Lab File ID: C8688

Level: (low/med) LOW

Date Received: 02/09/94

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ng/L or ug/Kg) ng/L

CAS NO.

COMPOUND

Q

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	1	J
95-13-6-----	1H-Indene	0.9	U
91-20-3-----	Naphthalene	5	BJ
4565-32-6-----	Benzo(B)Thiophene	0.9	U
91-22-5-----	Quinoline	1	BJ
120-72-9-----	1H-Indole	2	U
91-57-6-----	2-Methylnaphthalene	3	B
90-12-0-----	1-Methylnaphthalene	2	BR
92-52-4-----	Biphenyl	4	U
208-96-8-----	Acenaphthylene	1	U
83-32-9-----	Acenaphthene	1	U
132-64-9-----	Dibenzofuran	1	U
86-73-7-----	Fluorene	1	B
132-65-0-----	Dibenzo(b)thiophene	1	U
85-01-8-----	Phenanthrene	6	B
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	2	B
129-00-0-----	Pyrene	1	BJ
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	U
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

1X
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

33713-01MS

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

PCJ-SLP6MS-020894
SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01MS

Sample wt/vol: 4200 (g/mL) ML

Lab File ID: C8691

Level: (low/med) LOW

Date Received: 02/09/94

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ng/L or ug/Kg) ng/L	Q
---------	----------	--	---

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	32	
95-13-6-----	1H-Indene	8	
91-20-3-----	Naphthalene	11	B
4565-32-6-----	Benzo(B)Thiophene	2	R
91-22-5-----	Quinoline	7	B
120-72-9-----	1H-Indole	2	J
91-57-6-----	2-Methylnaphthalene	10	B
90-12-0-----	1-Methylnaphthalene	2	BR
92-52-4-----	Biphenyl	1	J
208-96-8-----	Acenaphthylene	7	
83-32-9-----	Acenaphthene	16	
132-64-9-----	Dibenzofuran	2	
86-73-7-----	Fluorene	13	B
132-65-0-----	Dibenzothiophene	1	U
85-01-8-----	Phenanthrene	6	B
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	2	B
129-00-0-----	Pyrene	1	BJ
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

1X
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

33713-01MSD

Lab Name: ENSECO

Contract:

PCJ-SCP6MSD-020894

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 33713-01MSD

Sample wt/vol: 4200 (g/mL) ML

Lab File ID: C8692

Level: (low/med) LOW

Date Received: 02/09/94

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.119

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ng/L or ug/Kg) ng/L

CAS NO.

COMPOUND

Q

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	26	
95-13-6-----	1H-Indene	7	
91-20-3-----	Naphthalene	9	B
4565-32-6-----	Benzo(B)Thiophene	2	
91-22-5-----	Quinoline	6	B
120-72-9-----	1H-Indole	1	J
91-57-6-----	2-Methylnaphthalene	9	B
90-12-0-----	1-Methylnaphthalene	2	BR
92-52-4-----	Biphenyl	4	U
208-96-8-----	Acenaphthylene	6	R
83-32-9-----	Acenaphthene	14	
132-64-9-----	Dibenzofuran	1	
86-73-7-----	Fluorene	11	B
132-65-0-----	Dibenzothiophene	1	U
85-01-8-----	Phenanthrene	5	B
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	2	B
129-00-0-----	Pyrene	1	BJ
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

	EPA SAMPLE NO.	S1 (NAP)#	S2 (FLU)#	S3 (CHR)#	TOT OUT
01	33713-01	76	58	42	0
02	33713-01DU	83	64	46	0
03	33713-01FB	83	68	76	0
04	33713-01FBD	70	56	68	0
05	33713-01MS	76	60	32	0
06	33713-01MSD	64	52	32	0
07	BLK01	77	60	70	0

S1 (NAP) = Naphthalene-d8	QC LIMITS
S2 (FLU) = Fluorene-d10	(14-108)
S3 (CHR) = Chrysene-d12	(41-162)
	(10-118)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Matrix Spike - EPA Sample No.: 33713-01

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC #	QC LIMITS REC.
1H-Indene	9.520	1.464	7.937	68	20-150
Naphthalene	9.520	2.666	10.95	87	20-150
Quinoline	9.520	1.004	7.057	64	20-150
2-Methylnaphthalene	9.520	1.523	10.14	91	20-150
Fluorene	9.520	5.831	12.85	74	20-150
Chrysene	9.520	0.345	3.320	35	20-150
Benzo(E)Pyrene	9.520	ND	0.455	5 *	10-150

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1H-Indene	9.520	6.581	54	23	28	20-150
Naphthalene	9.520	9.211	69	23	28	20-150
Quinoline	9.520	6.331	56	13	28	20-150
2-Methylnaphthalene	9.520	8.508	73	22	28	20-150
Fluorene	9.520	10.88	53	33 *	28	20-150
Chrysene	9.520	3.118	33	6	28	20-150
Benzo(E)Pyrene	9.520	0.476	5 *	5	28	10-150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLK01

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Lab File ID: C8686

Lab Sample ID: BL020994

Instrument ID: 4500-C

Date Extracted: 02/09/94

Matrix: (soil/water) WATER

Date Analyzed: 02/14/94

Level: (low/med) LOW

Time Analyzed: 1723

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	33713-01	33713-01	C8689	02/14/94
02	33713-01DU	33713-01DU	C8690	02/14/94
03	33713-01FB	33713-01FB	C8687	02/14/94
04	33713-01FBD	33713-01FBD	C8688	02/14/94
05	33713-01MS	33713-01MS	C8691	02/14/94
06	33713-01MSD	33713-01MSD	C8692	02/14/94

COMMENTS:

1X
ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BLK01

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: BL020994

Sample wt/vol: 4000 (g/mL) ML

Lab File ID: C8686

Level: (low/med) LOW

Date Received:

% Moisture: decanted: (Y/N) N

Date Extracted: 02/09/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 02/14/94

Injection Volume: 2.0(uL)

Dilution Factor: 0.125

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ng/L or ug/Kg) ng/L

CAS NO.

COMPOUND

Q

271-89-6-----	2,3-Dibenzofuran	5	U
496-11-7-----	2,3-Dihydroindene	1	U
95-13-6-----	1H-Indene	0.9	U
91-20-3-----	Naphthalene	4	J
4565-32-6-----	Benzo(B)Thiophene	0.9	U
91-22-5-----	Quinoline	1	J
120-72-9-----	1H-Indole	2	U
91-57-6-----	2-Methylnaphthalene	3	
90-12-0-----	1-Methylnaphthalene	1	JR
92-52-4-----	Biphenyl	4	U
208-96-8-----	Acenaphthylene	1	U
83-32-9-----	Acenaphthene	1	U
132-64-9-----	Dibenzofuran	1	U
86-73-7-----	Fluorene	1	
132-65-0-----	Dibenzothiophene	1	U
85-01-8-----	Phenanthrene	7	
120-12-7-----	Anthracene	1	U
260-94-6-----	Acridine	3	U
86-74-8-----	Carbazole	2	U
206-44-0-----	Fluoranthene	2	
129-00-0-----	Pyrene	2	
56-55-3-----	Benzo(A)Anthracene	2	U
218-01-9-----	Chrysene	3	U
205-99-2-----	Benzo(B)Fluoranthene	2	U
207-08-9-----	Benzo(K)Fluoranthene	2	U
192-97-2-----	Benzo(E)Pyrene	2	U
50-32-8-----	Benzo(A)Pyrene	2	U
198-55-0-----	Perylene	2	U
193-39-5-----	Indeno(1,2,3-CD)Pyrene	2	U
53-70-3-----	Dibenz(A,H)Anthracene	2	U
191-24-2-----	Benzo(G,H,I)Perylene	3	U

88
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENSECO

Contract:

Lab Code: ENSECO

Case No.: 33713

SAS No.:

SDG No.:

Lab File ID (Standard): C8685

Date Analyzed: 02/14/94

Instrument ID: 4500-C

Time Analyzed: 1602

	IS1 (ACN)	RT #	IS2 (PHN)	RT #	IS3 (BAP)	RT #
	AREA #		AREA #		AREA #	
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	424541	14.27	562456	18.00	249474	27.79
UPPER LIMIT	849082	14.77	1124912	18.50	498948	28.29
LOWER LIMIT	212270	13.77	281228	17.50	124737	27.29
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 33713-01	596239	14.22	697147	17.97	231352	27.86
02 33713-01DU	741470	14.22	857141	17.97	255782	27.87
03 33713-01FB	507752	14.25	604480	17.97	245072	27.87
04 33713-01FBD	571945	14.22	654268	17.97	256378	27.87
05 33713-01MS	648806	14.24	726463	17.97	221679	27.87
06 33713-01MSD	664928	14.25	764681	17.99	229030	27.87
07 BLK01	395913	14.12	488053	17.85	202462	27.74

IS1 (ACN) = Acenaphthene-D10

IS2 (PHN) = Phenanthrene-D10

IS3 (BAP) = Benzo(A)Pyrene-D10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.